

Figure 1A

Partial nucleotide sequence of Brookton IMI1 (SEQ ID NO:1)

(1) CGGCTCAGTATTACACTTACAAGCGGCCACGGCAGTGGCTGTCTCGTCT
(51) GGTTGGGGCAATGGGATTGGGTTACAGCTGCAGCTGGCGCTGCTGT
(101) GGCCAACCCAGGTGTTACAGTTGACATTGATGGTATGGTAGTTCC
(151) TCATGAACATTCAAGGAGTTGGCGTTGATCCGCATTGAGAACCTCCCAGTG
(201) AAGGTGATGATATTGAACAACCAGCATCTGGGAATGGTGGTCAGTGGGA
(251) GGATAGGTTTACAAGGCAATCGGGCGCACACATACTTGGCAACCCAG
(301) AAAATGAGAGTGAGATATATCCAGATTTGTGACGATTGCTAAAGGATTC
(351) AACGTTCCAGCAGTTCGAGTGACGAAGAAGAGCGAAGTCACTGCAGCAAT
(401) CAAGAAGATGCTTGAGACCCCAGGGCCATACTTGTGGATATCATAGTCC
(451) CGCATCAGGAGCACGTGCTGCCTATGATCCAAACGGTGGTGTTCAG
(501) GACATGATC

Figure 1B

Partial deduced amino acid sequence of Brookton IMI1 (SEQ ID NO:2)

(1) AQYYTYKPRQWLSSSGLGAMGFLPAAAGAAVANPGVTVVVIDGDGSFL
(51) MNIQELALIRIENLPVKVMILNNQHLGMVQWEDRFYKANRAHTYLGNE
(101) NESEIYPDFVTIAKGFNVPAVRVKKSEVAAIKMLETPGPYLLDIIVP
(151) HQEHVLPMPNGGAFKDMI

Figure 2A

Partial nucleotide sequence of Krichauff IMI3 (SEQ ID NO:3)

(1) GCGGCTCAGTATTACACTTACAAGCGGCCACGGCAGTGGCTGTCTCGTC
(51) TGGTTGGGGCAATGGGATTGGGTTACCAAGCTGCAGCTGGCGCTGCTG
(101) TGGCCAACCCAGGTGTTACAGTTGACATTGATGGAGATGGTAGTTTC
(151) CTCATGAACATTCAAGGAGTTGGCATTGATCCGTATTGAGAACCTCCCTGT
(201) GAAGGTGATGATATTGAACAAACCACAGCATCTGGGAATGGTGGTGCAATGGG
(251) AGGATAGGTTTACAAGGCCAATCGGGCGCACACATACCTTGGCAACCCA
(301) GAAAATGAGAGTGAGATATATCCAGATTTGTGACGATTGCTAAAGGATT
(351) CAACGTTCCGGCAGTTCGTGTGACGAAGAAAGAGCGAAGTCACTGCAGCAA
(401) TCAAGAAGATGCTTGAGACCCCAGGGCCATACTTGTGGATATCATCGTC
(451) CCGCATTCAAGGAGCACGTGCTGCCTATGATCCAAACGGTGGTGCTTCAA
(501) GGACATGATCATGGAGGGTGTGGCAGGACCTCGTACTGAAATTTCGACC
(551) TACAAGACCTACAAGTGTGACATGC

Figure 2B

Partial deduced amino acid sequence of Krichauff IMI3 (SEQ ID NO:4)

(1) AAQYYTYKRPRQWLSSSGLGAMGFGLPAAAGAAVANPGVTVVVIDGDGSF
(51) LMNIQELALIRIENLPVKVMILNNQHLGMVVQWEDRFYKANRAHTYLGNP
(101) ENESEIYPDFVTIAKGFNVPAVRVTKKSEVTAIAIKMLETPGPYLLDIIV
(151) PHQEHVLPMIPNGGAFKDMI

Figure 3

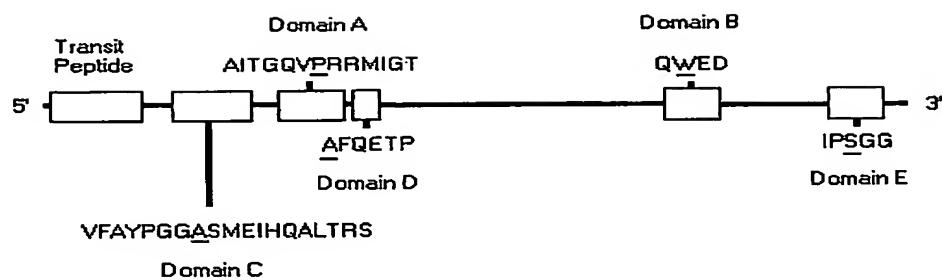


Figure 4

Decreased Injury of K-42 and BR-8 by Imazamox as Compared to Wild Type Varieties

	Wheat Cultivar	g/ha Imazamox		
		0	40	120
14 DAT	Krichauff K-42	0.0	8.6	9.0
		0.0	5.1	7.8
	Brookton BR-8	0.0	9.0	9.0
		0.0	5.6	7.0
21 DAT	Krichauff K-42	0.0	9.0	9.0
		0.0	4.1	7.6
	Brookton BR-8	0.0	9.0	9.0
		0.0	4.5	6.5

Figure 5

Inhibition of AHAS Enzyme Activity in Wild Type Wheat
(variety Brookton or Krichauff) and BR-8 and K-42

Imazamox (µM)	% Uninhibited AHAS Activity			
	Brookton	Br-8	Krichauff	K-42
1.6	73.2	79.7	84.3	78.7
3.1	62.9	73.7	74.6	76.0
6.3	47.6	61.2	53.3	67.0
12.5	30.2	56.0	30.5	53.8
25.0	24.4	50.0	25.3	50.4
50.0	15.2	48.4	17.6	49.0
100.0	14.7	48.1	16.9	47.4

Figure 6

Decreased Injury of K-42/BR-8 Hybrid by Imazamox as Compared to Wild Type Varieties and Parental Lines K-42 and BR-8

Line	Injury rating 14 and 21 DAT at three imazamox rates (g/ha)					
	14 DAT			21 DAT		
	0	40	120	0	40	120
Krichauff	0.0	8.6	9.0	0.0	9.0	9.0
Brookton	0.0	9.0	9.0	0.0	9.0	9.0
K-42	0.0	5.1	7.8	0.0	4.1	7.6
Br-8	0.0	5.6	7.0	0.0	4.5	6.5
K-42/Br-8	0.0	0.2	1.4	0.0	0.0	0.3

Figure 7

Inhibition of AHAS Enzyme Activity in Wild Type Wheat
(variety Brookton or Krichauff) and BR-8/K-42 Hybrid and Parental Lines K-42 and BR-8

µM Imazethapyr	% Uninhibited AHAS Activity				
	Brookton	Krichauff	Br-8	K-42	Br-8/K-42
1.6	71.1	84.3	61.7	79.7	80.1
3.1	60.7	74.6	53.0	73.7	68.8
6.3	43.5	53.3	47.1	61.2	61.9
12.5	27.3	30.5	40.9	48.4	57.9
25.0	22.8	25.3	39.7	44.4	60.0
50.0	17.7	17.6	36.9	37.7	58.7
100.0	16.8	16.9	35.9	36.6	60.3